



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0338; Directorate Identifier 2014-CE-010-AD]

RIN 2120-AA64

Airworthiness Directives; Piper Aircraft, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Piper Aircraft, Inc. Model PA-31-350 airplanes. This proposed AD was prompted by a report of an engine fire caused by a leak in the fuel pump inlet hose. This proposed AD would require inspecting the fuel hose assembly and the turbocharger support assembly for proper clearance between them, inspecting each assembly for any sign of damage, and making any necessary repairs or replacements. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register]**.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (772) 567-4361; fax: (772) 978-6573; Internet: www.piper.com/home/pages/Publications.cfm. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0338; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Gary Wechsler, Aerospace Engineer, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, Georgia 30337; telephone: (404) 474-5575; fax: (404) 474-5606; email: gary.wechsler@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2014-0338; Directorate Identifier 2014-CE-010-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received a report of an engine fire on a Piper Aircraft, Inc. (Piper) Model PA-31-350 airplane. Investigation revealed that the fire was caused by a leak in the fuel pump inlet hose that resulted from repeated contact with an adjacent turbocharger support assembly caused by inadequate clearance between the two assemblies.

This condition, if not corrected, could result in damage to the fuel inlet hose assembly, which could cause the fuel pump inlet hose to fail and leak fuel in the engine compartment. This condition could also cause damage to the turbocharger support assembly, which could require the turbocharger support assembly to be repaired or replaced.

Relevant Service Information

We reviewed Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014. The service information describes procedures for the following:

- Inspecting for a minimum 3/16-inch clearance between the fuel hose assembly and the turbocharger support assembly and making any necessary adjustments.
- Inspecting the fuel hose assembly for any signs of damage and, if necessary, replacing with a serviceable part.
- Inspecting the turbocharger support assembly for any signs of damage and, if necessary, repairing or replacing with a serviceable part.
- Performing an engine run-up to check for any leaks.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

Differences Between the Proposed AD and the Service Information

There are differences between the compliance times for the corrective actions in this proposed AD and those in Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

We based the compliance times in this proposed AD on risk analysis and cost impact to operators. There has only been one event of the reported incident in the operational history of Piper Model PA-31-350 airplanes. Cost was also a strong consideration due to the age of the fleet and the number of airplanes still in service.

The one-time inspection required in this proposed AD is very inexpensive and requires minimal time to accomplish. It is expected that almost all airplanes in service can be cleared with a single inspection, and no additional actions or costs would be incurred by the vast majority of the fleet.

We determined that a single inspection with any necessary corrective actions is an adequate terminating action for the unsafe condition. The risk related to future maintenance on the fuel line would be mitigated by the related service information and awareness from this proposed AD.

Costs of Compliance

We estimate that this proposed AD affects 773 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspect for proper clearance between the fuel hose assembly and the turbocharger support assembly	1 work-hour X \$85 per hour = \$85	N/A	\$85	\$65,705
Inspect the fuel hose assembly for evidence of leaking, cracking, chafing, and any other sign of damage	.5 work-hour X \$85 per hour = \$42.50	N/A	\$42.50	32,852.50
Inspect the turbocharger support assembly for evidence of chafing and any other sign of damage	.5 work-hour X \$85 per hour = \$42.50	N/A	\$42.50	32,852.50

We estimate the following costs to do any necessary follow-on actions that would be required based on the results of the proposed inspection. We have no way of determining the number of airplanes that might need these corrective actions.

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Adjust for proper clearance between the fuel hose assembly and the turbocharger support assembly	.5 work-hour X \$85 per hour = \$42.50	N/A	\$42.50
Replace fuel hose assembly	1 work-hour X \$85 per hour = \$85	\$1,068	\$1,153
Replace turbocharger support assembly	24 work-hours X \$85 per hour = \$2,040	\$12,874	\$14,914
Engine run-up/leak check	1 work-hour X \$85 = \$85 (.5 work hour per engine)	N/A	\$85

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This proposed regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Piper Aircraft, Inc.: Docket No. FAA-2014-0338; Directorate Identifier
2014-CE-010-AD.

(a) Comments Due Date

We must receive comments by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register]**.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Piper Aircraft, Inc. Model PA-31-350 airplanes, serial numbers 31-5001 through 31-5004, 31-7305005 through 31-8452024, and 31-8253001 through 31-8553002, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 73: Engine Fuel and Control.

(e) Unsafe Condition

This AD was prompted by a report of an engine fire caused by a leak in the fuel pump inlet hose. We are issuing this AD to correct the unsafe condition on these products.

(f) Compliance

Comply with this AD within the compliance times specified in paragraphs (g)(1) through (j)(2) of this AD, unless already done.

(g) Ensure Proper Clearance Between the Fuel Hose Assembly and the Turbocharger Support Assembly

(1) Within the next 60 hours time-in-service (TIS) after the effective date of this AD or within the next 6 months after the effective date of this AD, whichever occurs first, inspect to determine the clearance between the fuel hose assembly, Piper part

number (P/N) 39995-034, and the turbocharger support assembly, Lycoming P/N LW-18302. There should be a minimum 3/16-inch clearance. Do the inspection following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

(2) Before further flight after the inspection required in paragraph (g)(1) of this AD, if the measured clearance is less than 3/16-inch, make all necessary adjustments following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014, to make the clearance a minimum of 3/16-inch.

(h) Inspect the Fuel Hose Assembly and Replace if Necessary

(1) Within the next 60 hours TIS after the effective date of this AD or within the next 6 months after the effective date of this AD, whichever occurs first, inspect P/N 39995-034 for evidence of leaking, cracking, chafing, and any other sign of damage following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

(2) Before further flight after the inspection required in paragraph (h)(1) of this AD, if any evidence of leaking, cracking, chafing, or any other sign of damage is found, replace P/N 39995-034 with a serviceable part following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

(i) Inspect the Turbocharger Support Assembly and Replace if Necessary

(1) Within the next 60 hours TIS after the effective date of this AD or within the next 6 months after the effective date of this AD, whichever occurs first, inspect P/N LW-18302 for evidence of chafing and any other signs of damage following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

(2) Before further flight after the inspection required in paragraph (i)(1) of this AD, if any evidence of chafing or any other sign of damage is found, replace P/N LW-18302 with a serviceable part.

(j) Engine Run-Up

(1) If any fuel line component was adjusted or replaced during any actions required in paragraphs (g)(1) through (i)(2) of this AD, before further flight, perform an engine run-up on the ground to check for leaks following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

(2) If any leaks are found during the engine run-up required in paragraph (j)(1) of this AD, emanating from any fuel line component adjusted, repaired, or replaced during any actions required in paragraphs (g)(1) through (i)(2) of this AD, before further flight, take all necessary corrective actions following the INSTRUCTIONS section of Piper Aircraft, Inc. Service Bulletin No. 1257, dated February 25, 2014.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(1) Related Information

(1) For more information about this AD, contact Gary Wechsler, Aerospace Engineer, FAA, Atlanta ACO, 1701 Columbia Avenue, College Park, Georgia 30337; telephone: (404) 474-5575; fax: (404) 474-5606; email: gary.wechsler@faa.gov.

(2) For service information identified in this AD, contact Piper Aircraft, Inc., 926 Piper Drive, Vero Beach, Florida 32960; telephone: (772) 567-4361; fax: (772) 978-6573; Internet: www.piper.com/home/pages/Publications.cfm. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued in Kansas City, Missouri, on May 23, 2014.

Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.

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